Not if, but when:
Managing Underwater Cultural Heritage in the face of Climate Change

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Overview

- definitions
- risk, vulnerability and endangerment
- monitoring and management challenges
- legislative, policy and program approaches
- community engagement
- next steps?
all traces of human existence having a **cultural**, **historical** or **archaeological character**, which may have been **partially or totally under water**, periodically or continuously **for at least 100 years**.
UNDERWATER CULTURAL HERITAGE

› includes

- remains of vessels, aircraft, other vehicles or any part thereof, their cargo and or other contents, together with their archaeological and natural contexts
- sites, structures, buildings, artefacts and human remains, together with their archaeological and natural contexts
- objects of prehistoric character
COASTAL UCH

- UCH within territorial waters over which State has control
- most at risk, primarily due to its relative accessibility, light highly oxygenated environment and the dynamic interaction of physical, chemical and biological processes
 › planning, organizing, directing and controlling resources toward the achievement of an objective

 › working with the community to know, value and care for our heritage

 › protection of the cultural significance, integrity and authenticity of the resource for present and future generations through conservation and sustainable resource utilisation

 › TO MANAGE IS TO SUCCEED IN DEIONG OR DEALING WITH SOMETHING DIFFICULT (UCH) OVER WHICH ONE HAS CONTROL
MANAGING UNDERWATER HERITAGE

› which measures to take in the face of coastal change?
› understand sites, their risk, vulnerability and endangerment potential...
DETERMINING THE RESOURCE

» inventory of sites

» determine nature and extent
  - boat and shipwrecks
  - aircraft
  - infrastructure
  - fish traps
  - settlement sites
  - submerged landscapes
  - isolated finds
  - others?
PRELIMINARY ASSESSMENT

- likelihood of hazard (risk)
- vulnerability of UCH to hazard
- consequences of hazard (loss)
- value of loss to UCH
- capacity for UCH to recover (resilience)
- potential for endangerment as a factor of resilience
- survival a measure of how UCH has fared to date – a point in time!
SIMPLE RISK ASSESSMENT

![Risk Assessment Matrix](image)

- **Impact**: low, medium, high
- **Probability of Occurrence**: low, medium, high

The matrix helps classify risks based on their impact and probability of occurrence.
by foreseeing uncertainty, quantifying and analysing condition, it is possible to identify elements at risk and determine priorities for future actions
POTENTIAL RISK FACTORS

› assessment factors

- condition?
  • optimal condition
  • generally (un)satisfactory
  • exhibiting extensive issues

- vulnerability
  • principal influences on site

- trajectory
  • effectiveness of the management regime
  • condition improving
  • site stable
  • experiencing unmanaged or
  • inappropriate decline
1 Does the site comprise completely buried remains?

- Yes: Go to 2
- No: Go to 3

2 Is the site at risk of imminent exposure?

- Low risk: Go to 5
- Medium risk: Go to 4

3 Is the site affected by unauthorised intrusive activity?

- No: Go to 5
- Yes: High risk

4 Is the site buoyed?

- No: Go to 5
- Yes: High risk

5 Are features of special interest subject to physical and/or biological decay?

- No: Go to 7
- Yes: High risk

6 Are features of special interest in optimal condition and environment?

- No: Go to 8
- Yes: Medium risk

7 Are features of special interest in a generally satisfactory condition and environment?

- No: High risk
- Yes: Medium risk

8 Is the wreck's condition and environment generally satisfactory?

- Low risk: Medium risk
- High risk: Go to 6 (and add 1 risk level)
SITE MONITORING

› WHY?
› essential in managing coastal UCH
› against base-line data
› consequently and continuously
› both the site and its environment
SITE MONITORING

› HOW?
› tracer artefact studies
› data loggers
› geophysical surveys
› diver surveys
› observational data
› community engagement
CLIMATE ADAPTATIONS

› maintain a ‘watching brief’ on climate change projections and their associated environmental impacts
› support measures to increase resilience of the professional community
› support measures to increase resilience of sites
› embed climate change adaptation in risk management within projects and practices
  - promote the positive role the historic environment can play in informing responses to climate change and associated environmental risks;
  - develop an approach for dealing with inevitable change, including loss
  - support ICOMOS in mobilising the community for climate action
POLICY APPROACHES

› comprehensive inventory of UCH items
› model conservation management plans
  • excavation
  • *in situ* protection
  • preservation by record
  • manage as a ruin
› administering UCH funds
› improving partnerships
› increasing promotion of heritage (media!)
› capacity building
› international cooperation
CAPACITY BUILDING

› Outreach & Information
  - Public lectures/enquiries
  - National Archaeology Week
  - Research requests

› Engagement & Recognition
  - WreckMap
  - Heritage Awards
  - Adopt-A-Wreck

› Education & Training
  - University courses
  - UNESCO ICCROM Training
  - Diving into Archaeology
MANAGING UNDERWATER HERITAGE

› Summary
  - definitions
  - risk, vulnerability and endangerment
  - monitoring and management
  - legislative, policy, program approaches
  - community engagement
  - next steps @ICOMOS next year